CLAIMS

I claim: see letter Sept 24, 2002

1. An internal combustion engine for producing rotational shaft work comprising:

a turbine having an external rotor whereby expanding combustion gases apply a torque to said external rotor;

a compressor;

one or more combustors;

a means for providing compressed air from said compressor to said combustors;

a means for providing fuel to said combustors;

a means for mixing and combusting said fuel and air in said combustors;

a means for transmitting rotational shaft work from said external rotor turbine to power said compressor.

2. The gas turbine engine of claim 1 wherein said compressor is of the dynamic type comprised of an external rotor having blading directed inward toward the center of rotation thereby allowing for a rotating means of communication between said external rotor of said turbine and said external rotor of said compressor.

3. The engine of claim 2 wherein said external rotor turbine consists of a rotating pressure vessel with one or more nozzles with a substantially tangential orientation mounted near the periphery of said pressure vessel wherein said nozzles produce reaction thrust torque from said combustion gases expanded through said nozzles.

4. The gas turbine of claim 3 wherein said nozzles are oriented substantially toward an impulse turbine of one or more stages wherein the kinetic energy remaining in the gas jets is converted to rotational shaft power.

5. The engine of claim 4 wherein said impulse turbine is located in a substantially axial direction from said nozzles.

6. The gas turbine of claims 1, 2, 3, 4, or 5 wherein said dynamic compressor is of the axial flow type with said external rotor journaled onto an internal stator containing a plurality of internal bladed stages.

7. The gas turbine of claim 6 wherein said internal bladed stages of said dynamic compressor are selected from a group consisting of internal rotor stages and internal stator stages.

8. The gas turbine of claims 1, 2, 3, 4, or 5 wherein said dynamic compressor is of the centrifugal radial flow type.

9. A gas turbine engine for propulsion comprising:

a rotating pressure vessel with a plurality of nozzles oriented in a substantially tangential orientation mounted near the periphery of said rotating pressure vessel wherein said nozzles produce gas jets producing reaction thrust torque from said combustion gases expanding through said nozzles;

a plurality of stator vanes which redirect the momentum remaining in said gas jets in a substantially axial direction;

a compressor of the dynamic type comprised of an external rotor thereby allowing for a rotating means of communication between said rotating pressure vessel of said turbine and said external rotor of said compressor;

one or more combustors;

a means for providing compressed air from said compressor to said combustors;

a means for providing fuel to said combustors;

a means for mixing and combusting said fuel and air in said combustors;

a means for transmitting rotational shaft work from said external rotor to said compressor.

10. The gas turbine of claim 9 wherein said combustors are located in a substantially axial direction upstream of said nozzles.

11. The gas turbine of claim 10 with an additional nozzle oriented axially on the center of rotation for propulsion.

12. The gas turbine of claim 9 wherein said combustors are located with a substantially radial orientation anywhere between said nozzles and center of rotation.

13. The gas turbine of claims 9, 10, 11 or 12 wherein said dynamic compressor is of the axial flow type with said external rotor journaled onto an internal stator containing a plurality of internal bladed stages.

14. The gas turbine of claim 13 wherein said internal bladed stages of said dynamic compressor are selected from a group consisting of internal rotor stages and internal stator stages.

15. The gas turbine of claims 9, 10, 11 or 12 wherein said dynamic compressor is of the centrifugal radial flow type.